

WHAT IS CLAIMED IS:

- 1     1.     An apparatus comprising:  
2             a blocking cap adapted for use with a pressurized squeegee head, the  
3     pressurized squeegee head adapted to hold attachment media, wherein the blocking  
4     cap is positioned to prevent the attachment media from being deposited on a  
5     predetermined location on a stencil as the pressurized squeegee head travels over  
6     the stencil, the stencil located on top of a circuit board.
- 1     2.     The apparatus of claim 1 wherein the blocking cap has at least two opposing  
2     surfaces angled inwardly.
- 1     3.     The apparatus of claim 2 wherein the blocking cap has a bottom opening.
- 1     4.     The apparatus of claim 1 wherein the blocking cap has a substantially  
2     horizontal surface and four substantially vertical surfaces, each substantially  
3     vertical surface attached along an upper edge to the substantially horizontal surface.
- 1     5.     The apparatus of claim 4 wherein the blocking cap has substantially square  
2     edges attached to flexible seals.
- 1     6.     The apparatus of claim 1 wherein the blocking cap fits inside the pressurized  
2     squeegee head.
- 1     7.     The apparatus of claim 6 wherein the pressurized squeegee head has a  
2     conditioning chamber, further wherein the blocking cap fits inside the conditioning  
3     chamber.
- 1     8.     The apparatus of claim 1 wherein the blocking cap is securable to the  
2     pressurized squeegee head with one or more connectors.

- 1 9. The apparatus of claim 1 wherein the blocking cap can be slid into position  
2 along rails secured to the pressurized squeegee head.
- 1 10. The apparatus of claim 1 wherein the predetermined location corresponds  
2 with one or more previously-placed components on the circuit board, the one or  
3 more previously-placed components protruding through one or more openings in  
4 the stencil.
- 1 11. The apparatus of claim 10 wherein the one more previously-placed  
2 components are selected from the group consisting of an individual surface-  
3 mounted component, a row of components, a pre-built die, a row of pre-built dice  
4 and a package.
- 1 12. The apparatus of claim 10 wherein the blocking cap is aligned with the  
2 previously-placed components on the circuit board.
- 1 13. The apparatus of claim 12 wherein the blocking cap is aligned manually or  
2 automatically.
- 1 14. The apparatus of claim 1 wherein the attachment media is solder paste,  
2 liquid flux or adhesive paste.
- 1 15. The apparatus of claim 1 wherein the blocking cap is made from rubber,  
2 plastic or metal.
- 1 16. An apparatus comprising:  
2 one or more blocking caps securable inside a pressurized squeegee head,  
3 the one or more blocking caps designed to allow a stencil to be partially printed,  
4 wherein one or more blank strips are left in defined areas on the stencil after the one  
5 or more blocking caps travel over the stencil.

- 1 17. The apparatus of claim 16 wherein the blank strips align with components  
2 previously secured to the circuit board.
- 1 18. The apparatus of claim 17 wherein the one or more blocking caps each have  
2 a substantially horizontal surface and four substantially vertical surfaces, each  
3 substantially vertical surface attached along an upper edge to the substantially  
4 horizontal surface.
- 1 19. The apparatus of claim 18 wherein at least two opposing substantially  
2 vertical surfaces each have a lip along a bottom edge.
- 1 20. The apparatus of claim 19 wherein the one or more blocking caps have  
2 rounded edges and corners.
- 1 21. The apparatus of claim 18 wherein the one or more blocking caps are each  
2 about 10 to 35 mm wide, about 10 to 35 mm long and about 10 to 35 mm tall.
- 1 22. The apparatus of claim 16 wherein the one or more blocking caps are made  
2 from rubber, plastic or metal.
- 1 23. The apparatus of claim 22 wherein the plastic is polyurethane.
- 1 24. The apparatus of claim 22 wherein the metal has a protective coating.
- 1 25. An apparatus for partially printing a circuit board comprising:  
2 a first blocking cap securable to a pressurized squeegee head; and  
3 a second blocking cap securable to the pressurized squeegee head at a  
4 predetermined distance apart from the first blocking cap.
- 1 26. The apparatus of claim 25 wherein the first and second blocking caps each  
2 create a blank strip on a stencil located on top of the circuit board as the pressurized

3 squeegee head travels over the stencil by preventing media deposition on each  
4 blank strip.

1 27. The apparatus of claim 26 wherein each blank strip is adjacent to a printed  
2 area path produced by media deposition from the pressurized squeegee head, the  
3 printed area path having a width equal to the predetermined distance between the  
4 first and second blocking caps.

1 28. The apparatus of claim 27 wherein each blank strip aligns with one or more  
2 components previously secured to the circuit board, the one or more components  
3 able to protrude through openings in the stencil.

1 29. The apparatus of claim 28 wherein the blocking caps each have a bottom  
2 edge with a lip to prevent attachment media from leaking onto the blank strips.

1 30. The apparatus of claim 29 wherein the blocking caps each have rounded  
2 edges and corners to aid in providing even deposition of attachment media around  
3 each lip of the blocking caps.